

METHOD FOR REAL-TIME DETECTION AND QUANTIFICATION OF NUCLEIC ACID SEQUENCES USING FLUORESCENT PRIMERS

ABSTRACT OF THE DISCLOSURE

The invention is a homogeneous method for detecting and/or quantifying specific nucleic acid sequences (DNA or RNA) in amplification or reverse transcription reactions, involving the use of fluorescently labeled forward and reverse primer pairs that produce a fluorescence resonance energy transfer signal when they are incorporated into the complementary strands of a double-stranded reaction product. The invention includes selecting a target sequence and forming the members of the primer pair so that their fluorescent labels are in close proximity, so producing a detectable signal on receiving an energy stimulus. The invention also involves selecting target sequences within short nucleotide fragments, resulting in short amplification products in polymerase chain reactions characterized by relative short duration, high sensitivity and reduced secondary non-specific reactions.

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